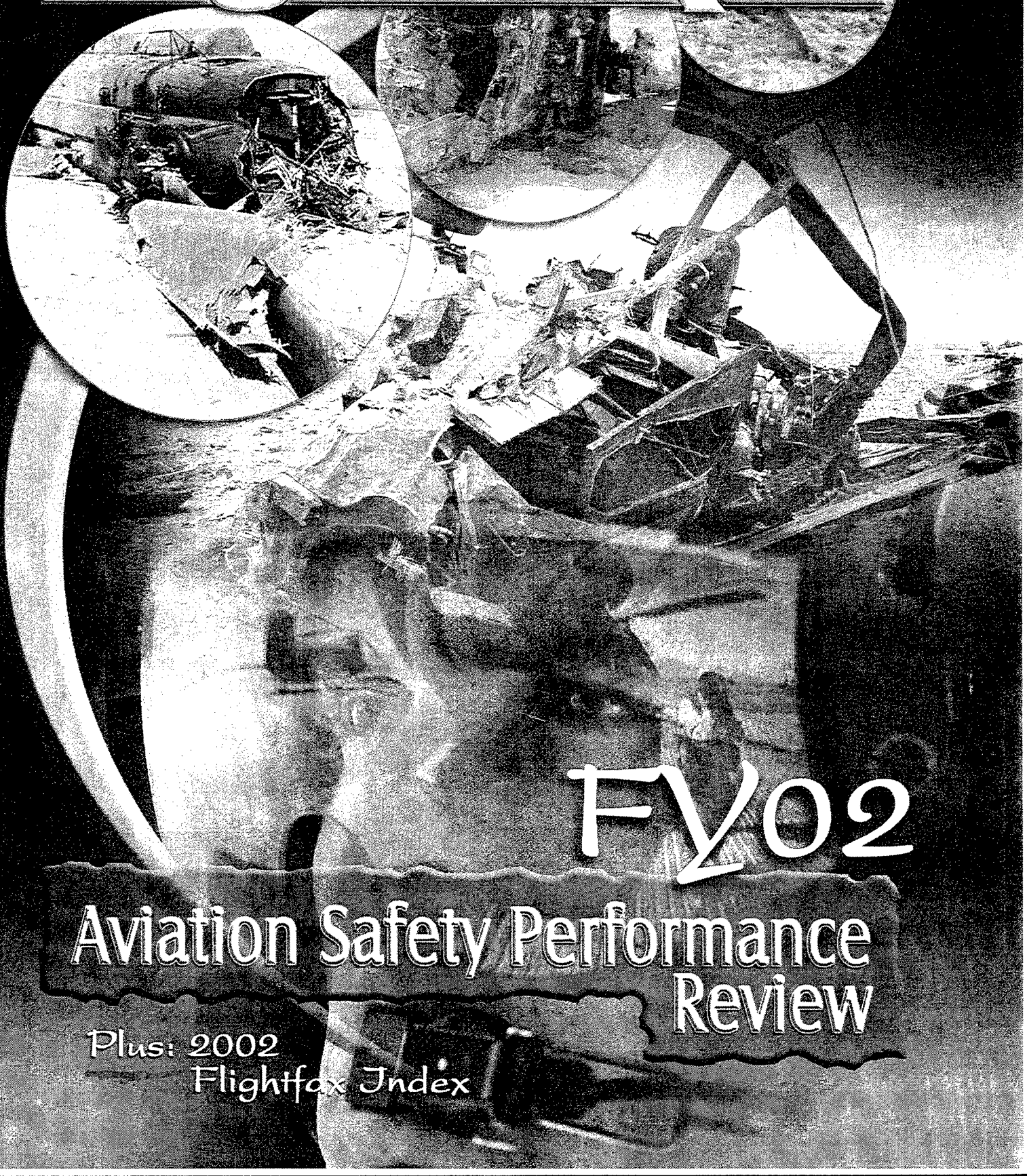
Flightfax

ARMY AVIATION RISK MANAGEMENT INFORMATION

DECEMBER 2002 ✦ VOL 30 ✦ NO 12



FY02 Aviation Safety Performance Review

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Flightfax

ARMY AVIATION RISK-MANAGEMENT INFORMATION

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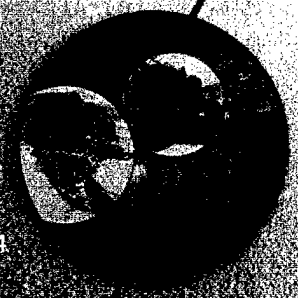

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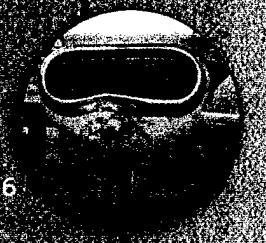

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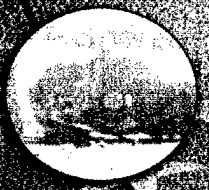

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James E. Simmons
Brigadier General, U.S. Army
Commanding

DASAF's CORNER

from the Director of Army Safety

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Gearing Up Again—Safely

For many of us, the holidays are once again warm memories of celebrations with family and friends. For those of you deployed around the world, I trust you felt our gratitude for the tremendous sacrifices you and your families make every day for our country.

I'm confident that we all are refreshed, re-energized, and eager to kick off the New Year. But a word of caution is in order as operations at our training bases and in our theaters of operation get back into full swing. Environmental conditions—brownout and this season's snow and ice—can complicate even routine operations and missions. Last year, we had one Class A aviation accident with 16 injuries and three on-duty Class A ground accidents with two military fatalities and one civilian fatality during the month of January.

The aviation accident occurred during an NVG, multi-ship, terrain-flight approach to a known dusty landing strip. The CH-47D landed on its aft landing gear as a dust cloud enveloped the aircraft. As the forward landing gear made ground contact, the aircraft rolled into an irrigation ditch. As a result, the aircraft rolled right and the nose pitched down, causing the rotor systems to contact the ground. Fortunately there were no fatalities, but 16 personnel were injured and the aircraft was destroyed.

On the ground side, a tank commander was pinned and sustained fatal injuries when his armored combat vehicle overturned while en route back to a cantonment area. The second Army fatality occurred when a National Guard Bureau soldier driving his POV home from duty following annual training was struck by a POV driven by a civilian who had fallen asleep at the wheel. In the third on-duty ground accident, the driver of a 5-ton Army motor vehicle was making a U-turn and struck a POV. The civilian driver received fatal injuries.

As we gear back up to full speed, I ask that each of you watch the hazards. They are present in our theaters of operation, they are present on the highways in our POVs, and they are present during each of our training events. If your risk management skills got a little rusty during the break, get your mindset back on those five simple steps it takes to effectively manage risks in whatever situation you are operating.

Accidents and injuries are preventable if each of us makes a concerted effort to identify and control hazards in even our most routine tasks. Conditions are constantly changing, and we must always be mindful that as those conditions change, new hazards come up. Stay alert and stay focused. We can reduce those four Class A on-duty accidents and three fatalities to zero this January.

Train hard and play hard, but be safe!

James E. Simmons

FY02 Aviation Safety Performance Review

Aviation safety suffered a setback in FY02. Accident rates, total losses, and fatalities all were on the increase. In FY02, Army Aviation experienced a 16-percent increase in Class A-C accidents over FY01. The change was primarily due to the upsurge in Class A accidents. The number of Class A accidents almost tripled from FY01 and was almost double the 3-year average. These accidents resulted in 17 Army fatalities, an increase of 6 over FY01.

In this article, we discuss recent centralized accident investigations conducted by the U.S. Army Safety Center and emphasize problem areas that must be addressed if we are to reverse this upward trend.

Analysis of FY02 Class A aviation accidents reveals that there is a chain of events leading to an accident. The events often began with a breakdown in leadership, standards, or discipline. This, coupled with lack of experience and continuous deployments, contributed to Army Aviation's worst Class A accident rate since Desert Shield/Desert Storm. Some of us wearing wings are not executing fundamental tasks, those taught to us in flight school, to standard.

Flight profile

The typical Class A flight accident occurred at night or was a single-ship mission. Generally, it was experienced pilots having these accidents. An instructor pilot (IP) was part of the crew in 22 percent of the cases. The IPs involved had an average of 2,669 total hours with 792 in type. The average pilot in command (PC) had 1,421 total hours with 771 in type, and the average pilot (PI) had 997 total hours with 354 in type.

Airframes

The AH-64 experienced the greatest accident rate increase, with nine Class A accidents (see pie chart) and four fatalities versus no accidents or fatalities in FY01. The MH/CH-47 community experienced seven Class A accidents and eight fatalities versus zero in FY01. Over one-third (35 percent) of the FY02 Class A flight accidents occurred in AH-64 aircraft (6.99), closely followed by the CH-47D (6.78), MH-47 (5.91), and OH-58D (5.46).

Events

Collision with the ground accounted for 36 percent of all FY02 Class A flight accidents. The AH-64A accidents in Afghanistan and at Fort Carson both were the result of improper power management—the power required was greater than power available. Brownouts or whiteouts accounted for 24 percent of FY02 Class A flight accidents. The UH-60 accidents in Wyoming and at the National Training Center (NTC) are two examples of encountering brownout or whiteout conditions and subsequent failure to execute the appropriate aircrew training manual (ATM) procedure. Tree or wire strikes accounted for 16 percent of the Class A flight accidents. In addition, there were two accidents (8 percent) in Korea in which the crew unsuccessfully responded to inadvertent instrument meteorological conditions (IIMC).

Indicators of indiscipline

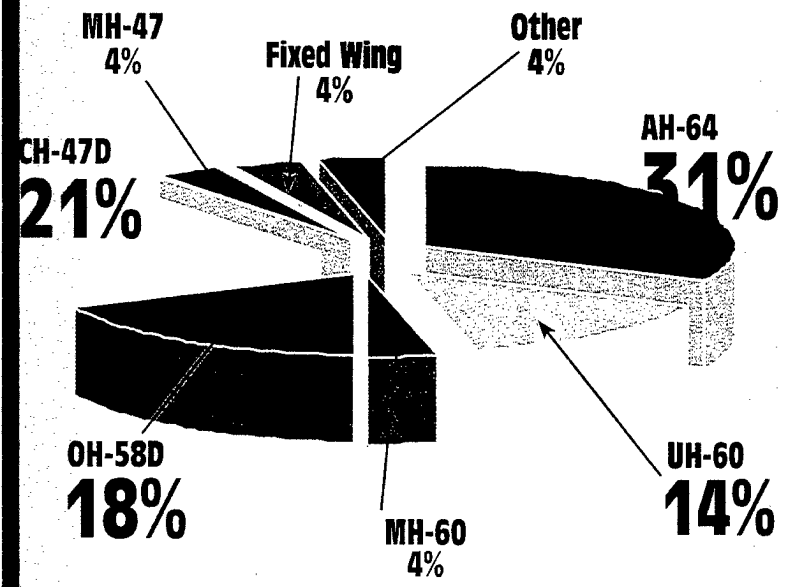
Human error caused the majority of the accidents. Systemic sources of this error can often be attributed to individual, crew, and leader indiscipline.

There are many examples of individual indiscipline in the planning, preparation, and execution phases of operations. Some examples of indiscipline during the planning and preparation

phases include IPs or PCs flying without the required performance planning, flying with incomplete or invalid weather briefings, and complacency in route planning. Additionally, failure to pre-flight and run-up using the appropriate checklist resulted in at least one, possibly two, OH-58D accidents due to the cyclic being locked out, killing two aviators and destroying two aircraft.

The following are examples of indiscipline during the execution phase: unauthorized deviations from the mission brief and failure to

FY02 Class A Aviation Accidents
(flight, flight-related & aircraft-ground)



operate the aircraft in accordance with published standards; e.g., failure to execute a go-around when encountering whiteout or brownout conditions caused two UH-60 Class A accidents, destroying both aircraft. Failure to commit to IMC when continued VMC flight is no longer possible has resulted in one, possibly two, AH-64 accidents, killing two pilots and destroying both aircraft.

Crew indiscipline spans all phases of flight operations. In the planning and preparation phases, crews failed to perform table talk or to rehearse single-ship missions. In one class A accident, had the aircrew talked through the performance planning and compared it to the mission profile, they would have realized they were too heavy to accomplish their intended objectives. As a result, the aircraft was destroyed.

Crew indiscipline during execution has been demonstrated by crew members not holding each other accountable; e.g., pilots performing aggressive maneuvers not required for the mission profile and other crewmembers not challenging the pilot's actions. This form of indiscipline resulted in at least two destroyed aircraft.

Examples of undisciplined crew coordination include the improper transfer of controls of a flightworthy AH-64. The aircraft descended into the trees and crashed when each pilot assumed the other had the controls. A second example is a pilot failing to react to his crew chief's warning of aircraft drift. The UH-60 was destroyed when it struck a tree, the only obstacle in the landing zone.

Leaders must set and enforce standards. A breakdown in these aspects of leadership was evident in several FY02 accidents. In one specific accident a unit commander, who was also a PI, did not have an up-slip, nor did his crew fill out a risk management worksheet. In another single-ship accident, the unit commander was the mission briefer and he failed to conduct the required mission briefing. Instead, he simply initialed the flight log without ensuring the crew had conducted the required pre-mission planning. This commander was not aware of the flight route or intended landing zones (LZs). Had he required a back-brief, he could have identified his aircrew's lack of performance planning. Instead, the mission was flown with insufficient power, resulting in one destroyed aircraft.

Conclusion

Human error (pilot, crew, and leader) continues to be the number one cause of Army Aviation accidents. Indiscipline is a major factor in these accidents. Soldiers are dying and we are destroying expensive aircraft and equipment. Leaders, formal and informal, who understand and accept responsibility can help solve this Armywide problem. Effective leaders must ensure soldiers know the standards and enforce these standards, thereby improving aviation safety performance. If you are looking for a leader in your unit to make this happen, start by looking in the mirror. This will be your contribution to Army Aviation safety. ■

Editor's note: Statistics are current as of 5 December 2002.

—Operations and Training Directorates, U.S. Army Safety Center, DSN 558-1496 (334-255-1496)

Bird Strike Season

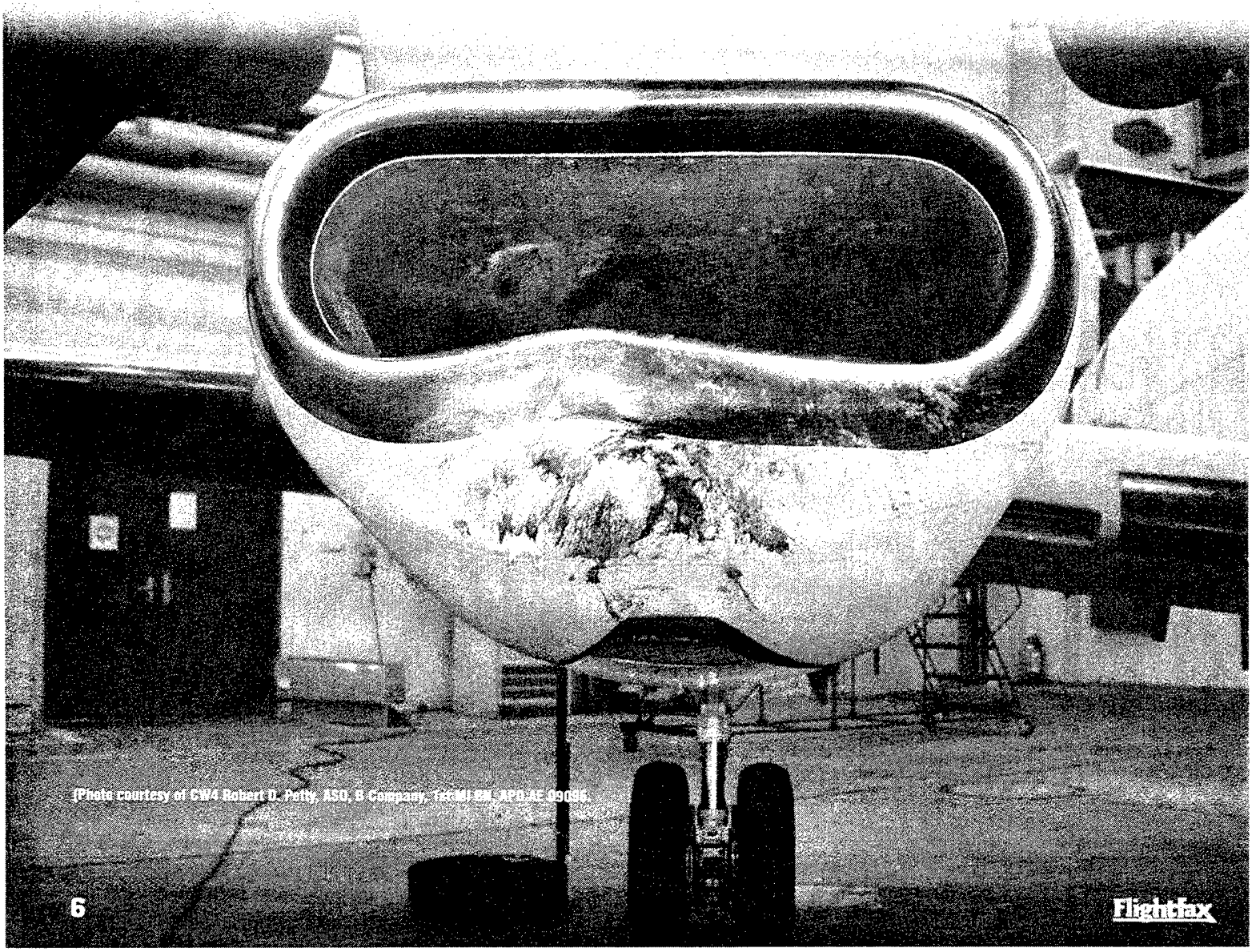
As summer left and the winter season began, so began the birds to make their way south, increasing the number of fowl in the air by thousands. As this photo shows from a recent strike in Wiesbaden, GE, the damage of one of those migratory Messerschmidts can be significant, to say nothing about if one comes through the windshield.

One of our own experienced a multiple bird strike during a night approach to their home airfield. Though damage resulted in costs of several thousand dollars, it could have been much worse. It could have been ingested into the engine (difficult, but not impossible), or lodged in the gear, or struck a flap, or any number of other scenarios.

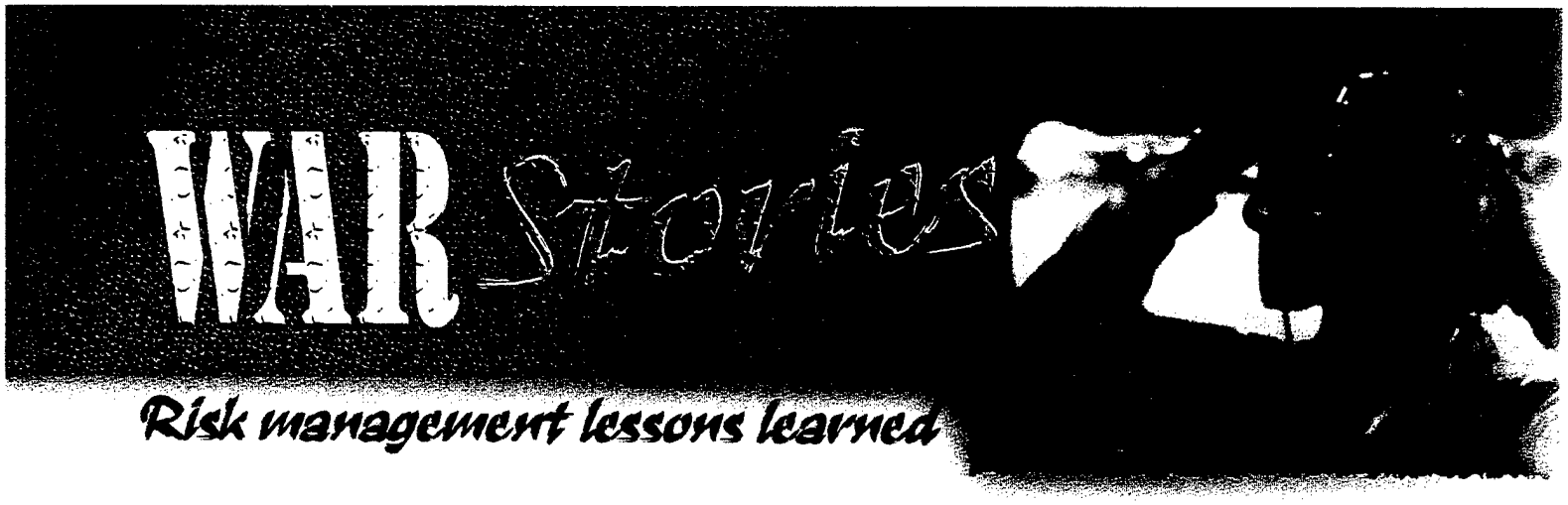
Pilots have been seriously injured by birds of all sizes, and thousands of dollars in damages occur every year. I've hit three birds in my career without any damage: one in a helicopter, one in a single-engine airplane, and one in a twin-engine airplane.

In the first two, I had no warnings about "fowled" air hazards, but in the last one we did. Several other aircraft had taken off before me with no reports of strikes, so we tried our luck...without luck. When it hit, the sound made our hearts thump, stomachs quiver, and I'm not sure what other bodily functions may have gone awry, but suffice it to say that "fowl air" wasn't only outside! Fortunately, it had only bounced off the top of the cockpit windshield and after a maintenance tech cleared us, we continued the mission. ■

—CW5 R. Keith Lane, Brigade Safety Officer, HQ, 244th Avn Bde, Fort Sheridan, IL, 847-266-4423. CW5 Lane is the editor of the 244th Avn Bde Hawk Talk.



(Photo courtesy of CW4 Robert D. Petty, ASO, B Company, 1st MI BN, APO AE 09036)



Freezing Rain

In 1986, I was flying for the U.S. Army in Montana. We had been in Helena for over 2 weeks doing Special Ops work. I was assigned the task of inserting a team at an Air Base to the north and then returning to Helena.

We checked the weather, and the flight would have clear skies and cold temperatures en route and scattered clouds with some light snow on the way home. It should be visual flight rules (VFR) all the way.

The weather en route was perfect; but on the way back to Helena, clouds closed in and snow started getting real bad. We had a UH-60 and all icing equipment was working. After trying to get to the nearest airport or landing site, we contacted Flight Service and filed an en route IFR flight plan home.

Now this is where the best laid plans fall apart. The weather checked out to be good: no icing and the snow level would be below our flight path—we looked at all the options. We called and received our IFR clearance and climbed to altitude. Clear at flight level and smooth air. Cold as all get-out, our crew in the back was freezing, but it looked like the flight home would be a safe one.

As you know, Murphy will strike at any time. About 25 miles short of Helena, clouds closed in, all anti-ice was on and working—rotor, pitot heat, tail rotor system. And then we ran smack into freezing rain! Where did this come from? No one had predicted this.

The aircraft started to collect ice. We tried climbing up. No help. Going lower in the mountains was out of the question. The weather was bad! No other route to go on, so we tried to get there as fast as possible.

Systems were working great, but visibility was limited through the windows. Power was starting to climb, so we knew the ice was building up on the aircraft.

To make a long story short, we made an IFR approach and landing. Tower told us to stay on the runway because we were throwing ice all over the place. I thought my heart would stop, and then my crew chief slapped me on the shoulder with a piece of ice that must have been 2 inches around and 1½ feet long. That came off the homing antenna!

I don't know what we could have done differently, except land when the snow was mentioned, but I don't think we could have explained that when another bird made it home before the unexplained freezing rain started. If it had been any other helicopter except the UH-60 with anti-icing systems, I would not be here to talk about it. Also, our maintenance officer (who we all thought was nuts for requiring the systems to work) made us check them all the time and then spent untold hours fixing them. We would have lost a ship and the crew if not for him. Needless to say, he earned my respect and I will always remember him for being the pain in the rear that saved us. ■

—Courtesy of HELIPROPS Newsletter and the author, James Szymanski (JSzymanski @bellhelicopter.textron.com)

Watching My Girls Grow Up

The story I am about to tell is much the same as any other that one would expect to see in a safety publication. The typical "it was just like any other day" line would apply to this story, except for one thing—this time, it involved me.

I am a company Aviation Safety Officer (ASO), and I address motorcycle safety in each month's safety meetings. This past summer I coordinated a Motorcycle Safety Foundation class, which was taught exclusively for our unit personnel. We were all taking the correct steps to ride our motorcycles safely. Throughout the course, the instructor mentioned the "other guy" as a hazard we would face. As it turns out, it was the other guy that found me one fateful night. I just didn't know it.

At work that day, the mission was an end-of-stage evaluation for two pilots completing their readiness level progression in the company. Just like any other day, we executed the flight debrief following the mission. We then sat around for several hours explaining to our two newest pilots what life would be like in their day-to-day duties. After that, just like any other day, I hopped on my motorcycle and headed home. As I neared my neighborhood, I slowed, signaled, and turned left...just like any other day. The events that followed would forever alter my life and the lives of those around me.

About 30 minutes after I left work, my wife received a phone call informing her that I had suffered a serious injury in an accident just six houses from home. When she arrived at the scene, my injuries were too grotesque for her to look at. When she asked me what happened, I simply did not know. To this day, I still have difficulty recalling what happened, although I am starting to remember bits and pieces. What I have learned of the nights' events, I hope others will learn from.

The car behind me had decided to cross the double-yellow line on this two-lane road in order to pass me just as I turned left. The right front of the other guy's car cut through my left rear shock and continued up the left side of my motorcycle, opening it up like a tin can. The inside of the engine was exposed, the gas tank caved in, the foot pegs were ripped off, and my left leg was nearly severed. On impact, I went up into the windshield and over the top of his car, while my motorcycle went under the right front tire. The driver continued on his merry way, uncaring as I lay bleeding to death in the opposite lane of traffic.

After being discovered by passers-by, I was taken to the military hospital on post and later flown to a university hospital approximately 200 miles away. That is where my left leg was amputated approximately 9 inches below the knee. As my wife was being driven to the university hospital, she received her second shocking phone call in a matter of just a few hours, informing her of the loss of my leg.

How could this happen? I had done everything right. I attended a Motorcycle Safety Foundation course, wore the proper personal protective equipment (PPE), and abided by all the laws. But the other

guy was out there that night and just happened to be behind me. I went from being an athletic 34-year-old to an amputee just trying to deal with reality.

The driver that struck my motorcycle that evening was apprehended a few miles down the road, driving home as if nothing had happened. Driving home with an imprint of my head on his windshield. He has been indicted on numerous charges and is awaiting trial. It was one of his many alcohol-related incidents and not his first DUI.

On impact, I went up into the windshield and over the top of his car, while my motorcycle went under the right front tire. The driver continued on his merry way, uncaring as I lay bleeding to death in the opposite lane of traffic.

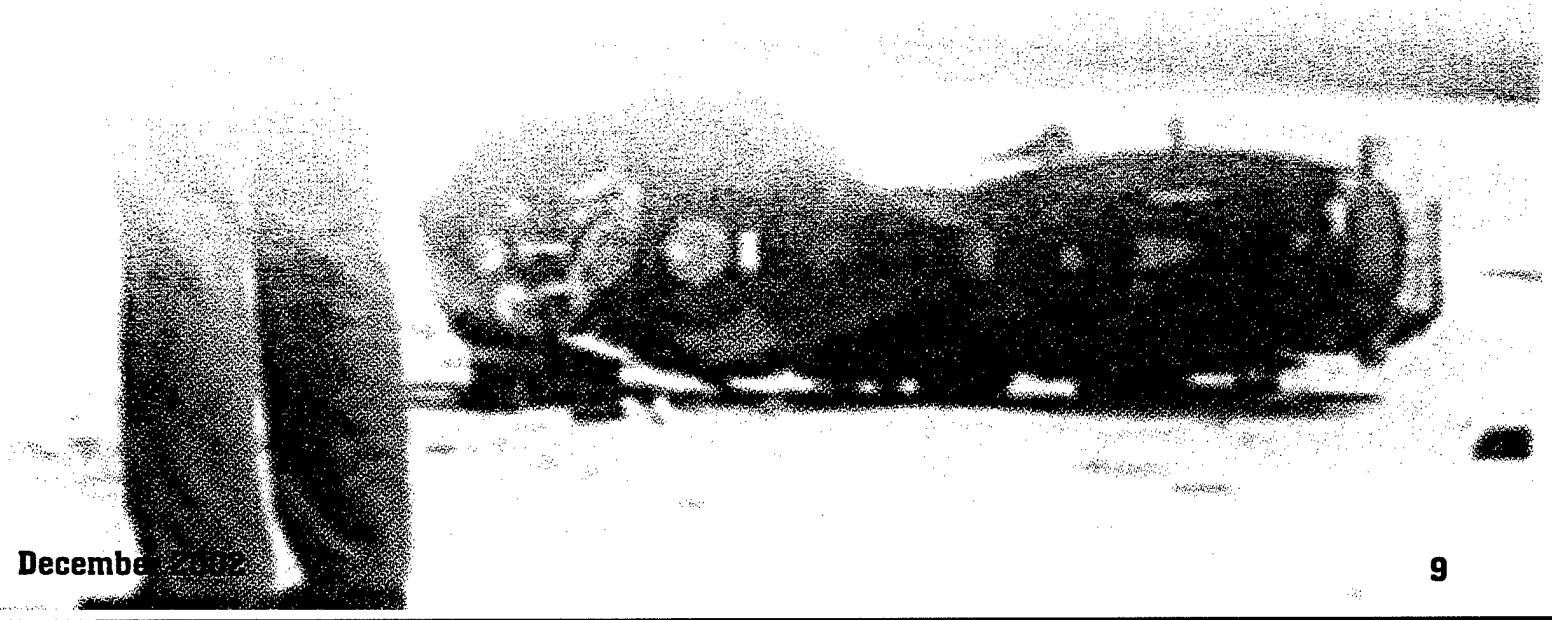
Since the accident, I have had a lot of time to reflect and listen to what people around me have to say. A lot of what I hear is enlightening, but some is absolutely shocking. I hear a lot of discussion and controversy regarding the use of helmets and other protective gear. Please read the next sentence slowly and read it numerous times. *The reason I am here to write this article is because I was wearing ALL of the PPE required to be worn while riding a motorcycle.*

I have had several people tell me that if they were to lose a leg, they would rather just die. These same people have families. I promise you that the road to recovery has been and continues to be extremely difficult, especially for my family. But I guarantee you that they would rather deal with the road to recovery than the road to the cemetery. That is why I agreed to write this story.

Before, as an ASO, I would always discuss motorcycle and POV safety in meetings, but now I have an understanding that I hope the readers of this article will never reach. I am much more adamant about getting others to understand the importance of PPE. A traumatic event like this affects so many more people than just the victim. Believe me, I know. Had it not been for our friends and people we did not even know that well, this would have been so much more difficult. So, if you are reading this and thinking only about yourself, you are thinking WRONG!

Not too long ago, I saw the photos of my motorcycle and the other guy's car for the very first time. His windshield looked like someone had thrown a bowling ball at it. Unfortunately, the bowling ball was in the form of my head. Without a doubt, my helmet saved my life. Don't get me wrong, my scalp was sore for a while, but I did not suffer a major head injury. No skull fractures, no open wounds. I was just sore, a small price to pay considering what could have happened.

I also was wearing protective eyewear, a leather jacket, long pants, boots, leather gloves, and reflective material. As a result, I had no "road rash," no other broken



bones, and my hands were not even injured. I have had a few people tell me that in certain situations, any amount of safety equipment will not save you. That may be correct, but this is my answer to him or her: *You do not have the luxury of choosing how and when the other guy meets you in an accident.* So, if you don't look as cool because you have "helmet head" and your hair is messed up, bring a hat. If wearing the proper PPE improves my chances of surviving and being there for my family, then give it to me.

I sustained an amputated leg. As tragic as that sounds, that was pretty much the extent of it. The recovery has been trying at times, more so for my family and friends than me. To them, I apologize. I have learned that I am a work in progress and I accept that. This accident has definitely forced me to redefine the priorities in my life. Trust me, I would rather have the equipment that God gave me, but following the accident, so many other things in my life have gotten better. I was lucky—I was given a second chance.

I am up walking around on two legs again, thanks to some talented surgeons and an extremely talented prosthetist. I was able to go on vacation with my family for some much-needed "family healing" time. I returned to my duties as company ASO within a few months of losing my leg and, if I have my way, I will fly for the U.S. Army again. I am able to go to dinner or a movie with my wife and even take the trash out and cut the grass so she doesn't have to.

At the end of the day, I drive home on that very road and make the same turn I made that night. Each time, I see the blood stain that is still on the road from my injury. Each time I look at that stain, I simply smile. I smile because, just like any other day, I'm watching my girls grow up. ■

—POC: CW3 Dana E. Jones recently attended the ASO course here at Fort Rucker. You can contact him at dj.jones4@us.army.mil

Belleville 790 Combat Boot Approved

Effective 26 Nov 02, the U.S. Army Aviation Center waives the requirement in AR 95-1, *Flight Regulations*, paragraph 8-9c(1) Leather Boots, requiring the wear of leather boots when performing crew duties. This waiver specifically allows the wear of the Air Force Tan Combat Boot also known as the Belleville 790 series boot. No other non-leather boot is authorized for wear. The Belleville 790 series is the same construction as the Infantry Combat Boot with tan dye applied to the leather. This will provide Aviation warfighters a tan boot to be worn during flight operations with the tan aviation battle dress uniform in desert locations. ■

—POC: COL Ellis W. Golson, DSN 558-3203 (334-255-3203, GolsonE@rucker.army.mil.

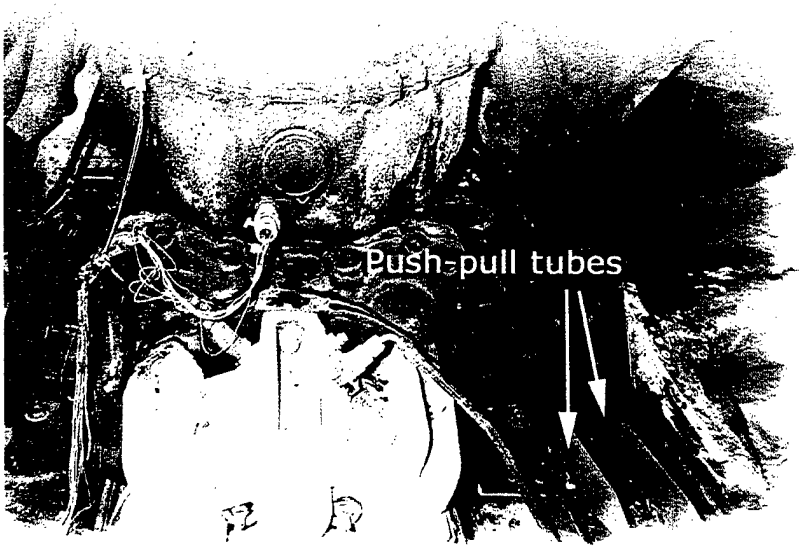
Portion by accident investigators to provide major lessons learned from recent centralized accident investigations.

Control of the Aircraft Was Never in Question

A recent in-flight fire on an MH-47E aircraft resulted in significant thermal damage to the rotor brake, synchronization shafts, combining transmission, and surrounding fuselage. The crew was able to land the aircraft safely without additional damage to the aircraft, and the fire was extinguished by the airfield fire department.

Several system safety improvements in the H-47 fleet performed as envisioned and the crew was able to maintain control of the aircraft as a result. Noteworthy of these improvements was the change several years ago to the push-pull tubes in the tunnel cover area.

A fire in the 1980s resulted in the crew losing control of the aircraft as the previous aluminum push-pull tubes failed from thermal damage. In the accompanying photo, the current push-pull tubes, which are made of stainless steel, exhibited only a layer of soot from the flames.



Although the temperature of the fire exceeded 1,200°F, the utility hydraulic lines, synchronization shafts, and push-pull tubes remained operational. The heat generated from the partial rotor brake engagement started a friction fire that scorched the combining transmission sump outer surface and caused the combining transmission oil to boil and overflow through the fill cap which in turn fed the fire.

The charred outer sump case exhibited a flaky layered texture. The inner sump case displayed a 2½-inch band of caked and discolored oil residue adjacent to the upper lip. The C-Box continued to run and did not fail. This fire also spread to the adjacent clam shell doors, aft cabin overhead paneling, the fuselage below the rotor brake assembly, the number one engine transmission to combining transmission drive shaft, and the combining transmission main body, including the cooling fan assembly.

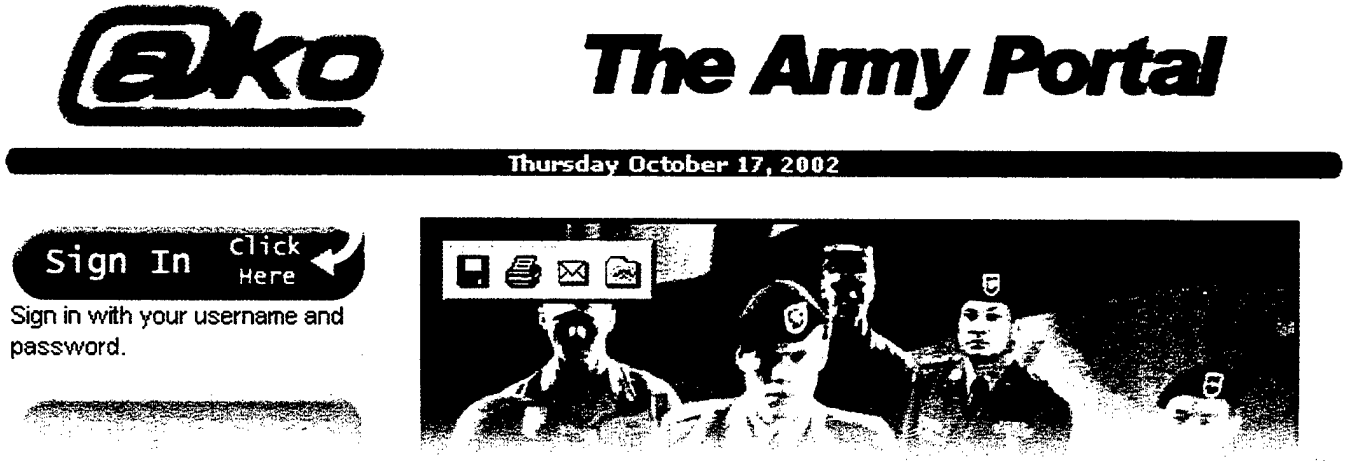
The main point from all of this is the crew was able to maintain aircraft control during this in-flight emergency due to the system safety improvements. Units can help improve the reliability of our aircraft by continuing to submit QDRs on suspected or known part failures. This will allow our program management offices, aircraft manufacturers, and system safety engineers to correct system inadequacies, and therefore save people and equipment. ■

—Aviation Systems and Accident Investigation Division, DSN 558-9858 (334-255-9858)

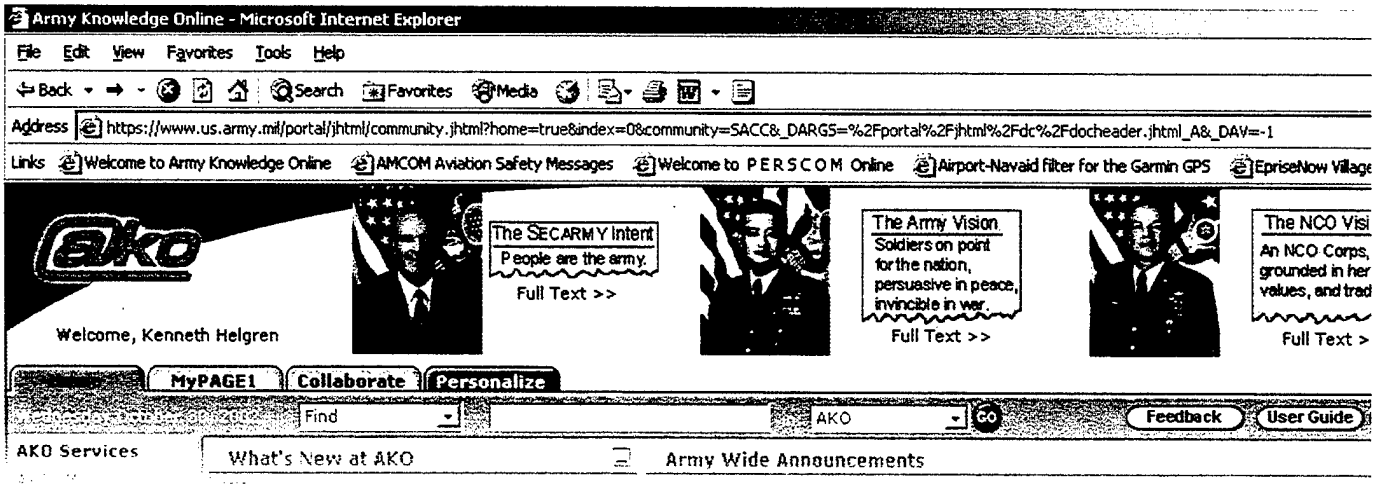
DES Announces New AKO Information Portal Access

Have you logged on to your Army Knowledge Online (AKO) account lately? AKO is the Army's portal for soldiers and civilian employees worldwide. Along with all its other useful features, you can now access the Directorate of Evaluation and Standardization (DES). This information portal replaced the old DES website to enhance the capability of providing information to aviation units worldwide in a timely manner. When you "subscribe" to this portal, you will receive periodic E-mail notifications via AKO telling you what has changed. It will be much easier for you to keep up with current information from DES. Just follow the instructions below:

1. Log into Army Knowledge On-line (AKO) at (http://www.us.army.mil).



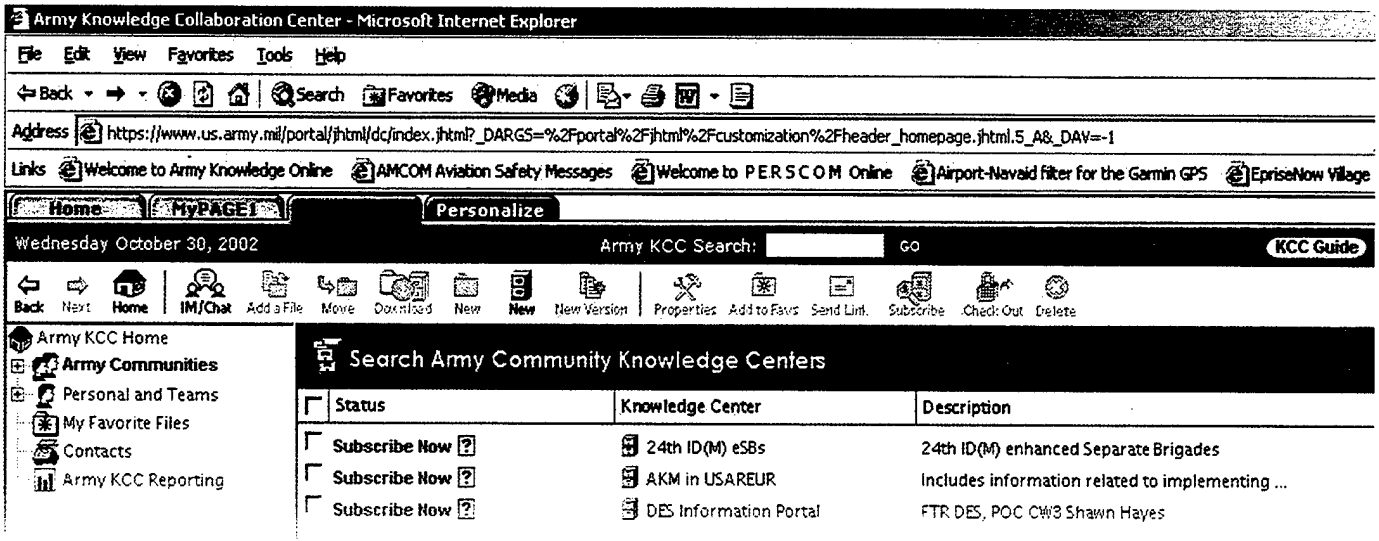
2. After your Home page opens on AKO, click on the green "Collaborate" tab.



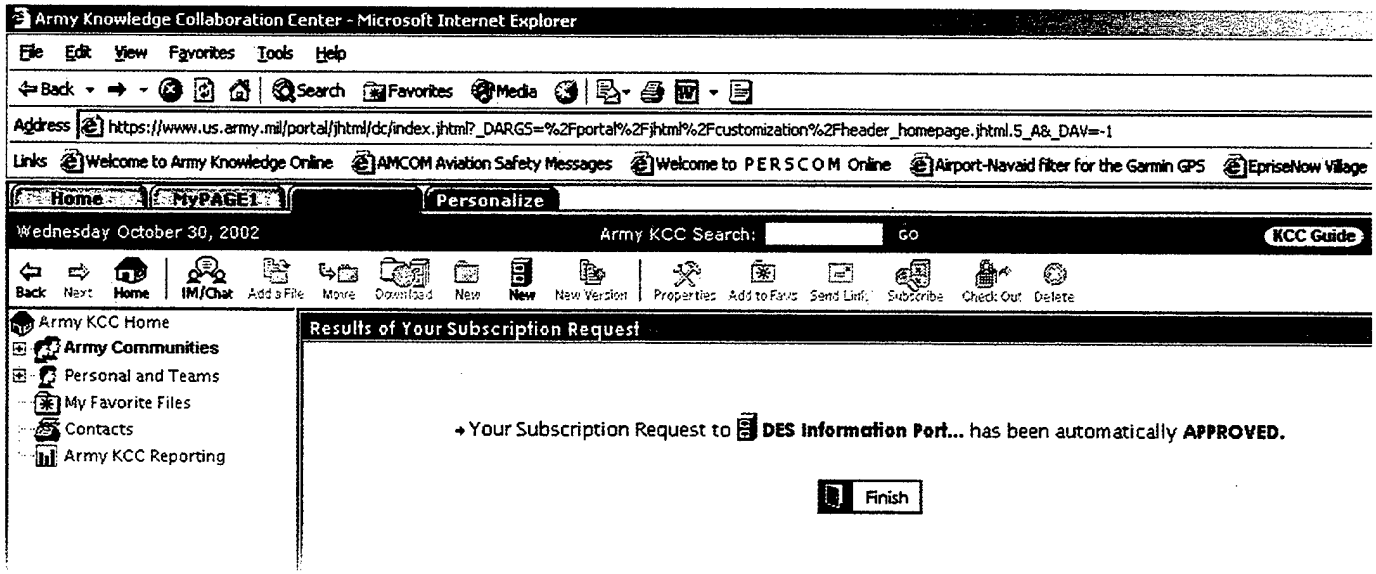
3. Locate the box titled "Search for an Army Community Knowledge Center."

4. Type "DES" in the box. The box is located at the bottom of the page.

5. **Hit the "SEARCH" dialog box that is to the right of the text entry area. The following box will return the contents of your search.**



6. **Locate the listing for DES Information Portal and check the box to the left of the "Subscribe Now" listing. Then click on the Subscribe icon below the red GO icon.**
7. **You should see the following screen. This means that you are now subscribed to the DES Information Portal. Click Finish.**



8. **To access the DES Information Portal in the future, click on "Army Communities" on the left side of the page. Then click on "TRADOC/Aviation/DES Information Portal."**
9. **You can navigate through the DES Information Portal just like it was a directory on your hard drive.**
10. **Now that you have subscribed, you will receive a notification from AKO anytime a document is added or deleted to the DES Information Portal.**

—CW3 Shawn Hayes, UH-60 SP/IE, DES Information Portal Administrator, Directorate of Evaluation and Standardization, Ft. Rucker, AL 36362, DSN 558-1124 (334-255-1124), shawn.hayes@rucker.army.mil

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Winterize Yourself and Your Aircraft

Control the risks — BE PREPARED!

- All aviation personnel should review Chapter 1 of FM 1-202, *Environmental Flight*, in preparation for Cold Weather Operations.
- Slips, trips, and falls increase exponentially in icy conditions. Don't rush. Walk slow and deliberately on slick surfaces.
- All personnel must dress appropriately for the conditions regardless of how little time they expect to remain in a cold environment. If you are delayed in conditions that you are not well prepared for, then there is the tendency to rush a task which leads to poor quality and potentially an injury or accident.
- Remove all snow, ice, and frost from aircraft, particularly potential projectiles thrown from rotating components. Damage to nearby equipment and aircraft, injury, or even death can occur.

—LTC Jeffrey Radke, Delaware Army National Guard, jeffrey.radke@de.ngb.army.mil